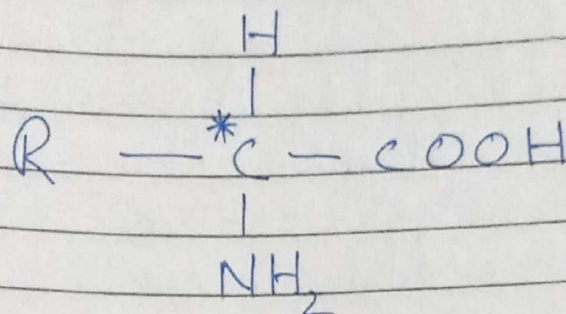
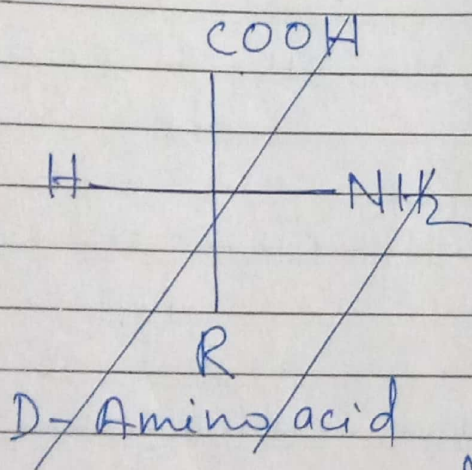


# Stereochemistry of amino acid

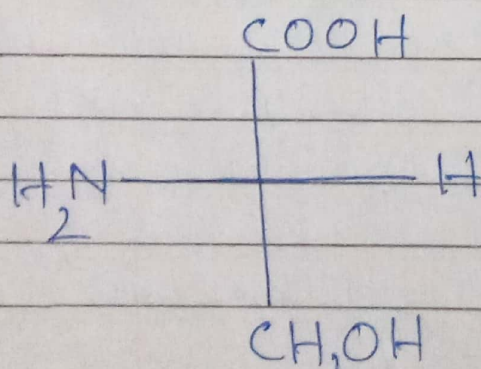
Except glycine, all amino acids contain a chiral centre and thus <sup>they</sup> are optically active



The amino acids may be dextro(+) or laevo(-) rotatory depending upon the pH of the solution and nature of side chain. Except glycine, rest of the amino acids may occur in D or L forms.

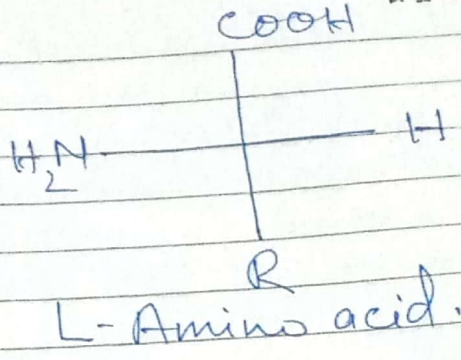
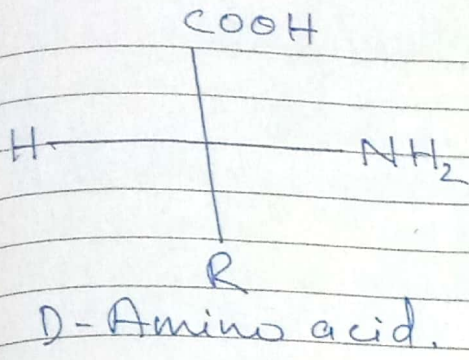


Natural (-) Serine was selected as standard for correlating the configuration of  $\alpha$ -amino acids and it was arbitrarily assigned L-configuration while the other enantiomer was assigned D-conf.



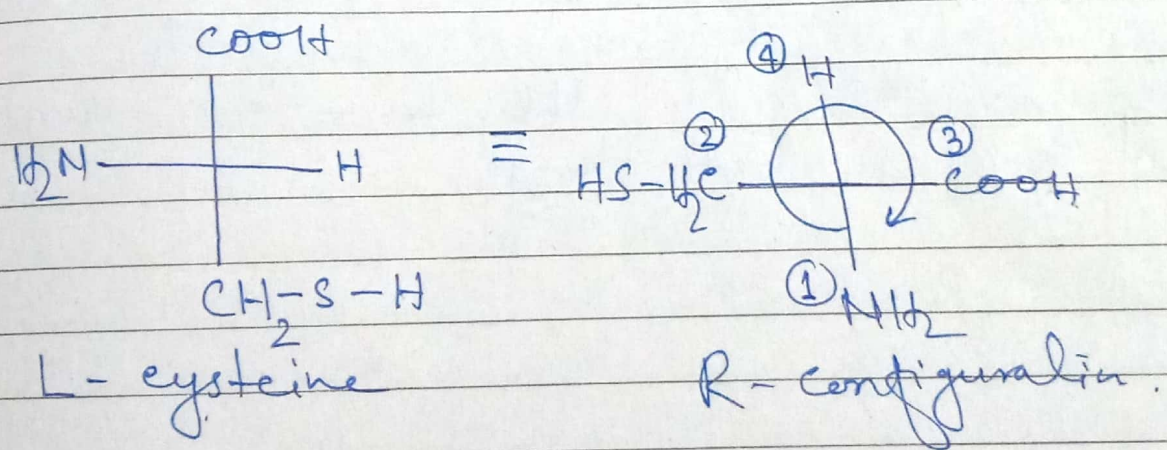
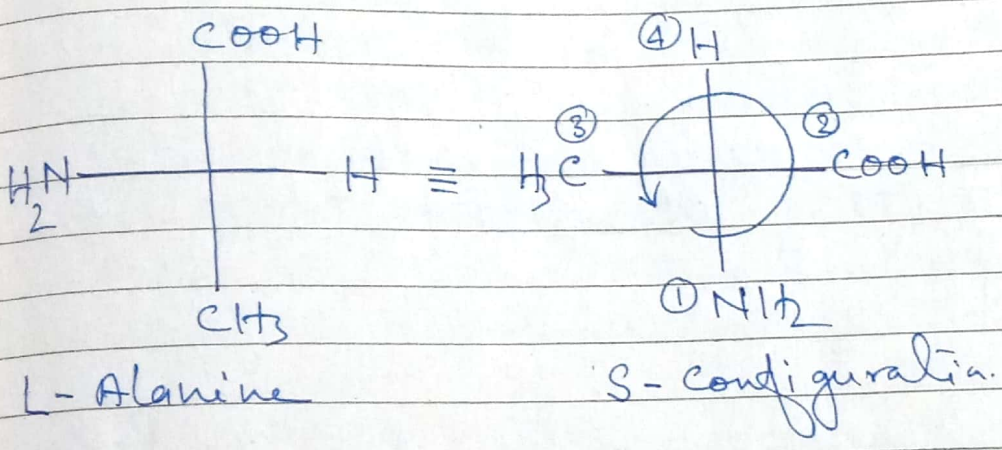
L(-) Serine (Natural)





The natural protein obtained from animals and plants in general contain L-amino acids while bacteria contain D-amino acids.

The L-amino acids exhibit S-configuration except cysteine (R-conf) due to sulphur in the side chain.



\* Due to C-S linkage attached to carbon, it has higher priority over -COOH (C-O linkage).

\* Priority order:  $\text{NH}_2 > \text{CH}_2\text{S-} > \text{COOH} > \text{H}$ .